



Air Education and Training

Command

Develop America's Airmen Today ... for Tomorrow



U.S. AIR FORCE

**AETC: Current Recruit
Health Surveillance and
Research Programs**

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6 Dec 2005**

Integrity - Service - Excellence

59th Medical Wing



**Basic Military Training
(BMT) Disease
Surveillance**

U.S. AIR FORCE

Integrity - Service - Excellence



Overview



- BMT Population
- Initial Screening
- Immunizations
- Sickle Cell Policy Changes
- Antibiotic Prophylaxis
- Febrile Respiratory Illness (FRI)
- Existing Resources
- Current Surveillance & Research
- Future Surveillance
- Requirements



BMT Population

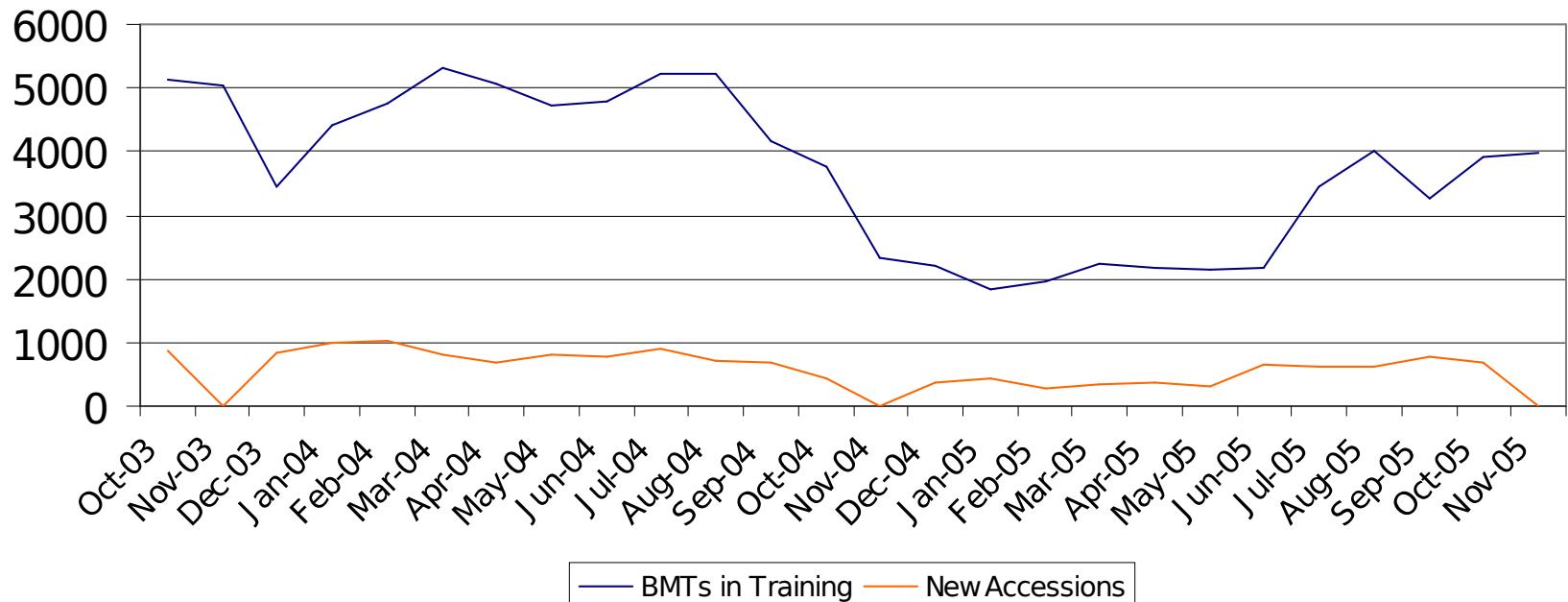


- **Accessions Received**

FY 03: **44,268** FY 04: **40,972** **FY 05: 24,622**

- **Projected Accessions**

FY06: **38,760** FY07: **39,910** FY08: **40,160**



Current BMTs in training (Weeks 1-6): 4,000 trainees per week
Current new accessions (Week 0): 800 trainees per week



BMT Demographics



	FY03	FY04	FY05
Mean Recruit Age	20.1yr S	20.0yr S	20.1yr S
Some College or Degree	21.0%	23.7%	23.6%
Married	9.8%	9.6%	9.9%
Female	24.7%	23.2%	24.0%
Minorities	29.8%	30.2%	29.7%

Source: Airman Database, maintained by 737 TRG, Lackland AFB



Initial Screening



Lab testing in Week 0:

- ABO typing
- DNA card
- G6PD: 2.4% positive
- Sickle cell prep: 1.6% positive
- HIV: <0.1% positive (1 positive per year)
- HCG (quantitative): 3.2% positive
- Titers to Hepatitis B: 46.9% antibody positive
- Varicella, Rubella & Rubeola: 78.3% antibody positive
- GC/Chlamydia testing (female trainees only)
- Urine drug testing: 0.4% positive





Immunizations

Vaccine	Week 0	Week 1	Week 5
Td	✓		
Influenza		✓ (Oct-June)	
Meningococcal	✓		
IPV	✓		
PPD	✓		
MMR		✓ (if susceptible)	
Varicella		✓ (if susceptible)	
Twinrix		✓ (if Hep B negative)	✓ (if Hep B negative)
Hep A		✓ (if Hep B positive)	2 nd Hep A or 3 rd Twinrix at 6 months



Sickle Cell Policy



- Local policy change by 37 TRW/CC
 - As of 1 April 2005 elimination of voluntary separation option for sickle cell trait (SCT) positive trainees
- Preventive health measures:
 - SCT positive trainees required to wear reflective sleeve
 - Identified and monitored closely as higher risk for heat injury/illness
- Outcome of policy change:
 - No SCT positives with sickle cell crisis episodes
 - No heat injury/illness cases among SCT positives



Antibiotic Prophylaxis

Purpose:

- Prevention of group A streptococcal (GAS) disease

History:

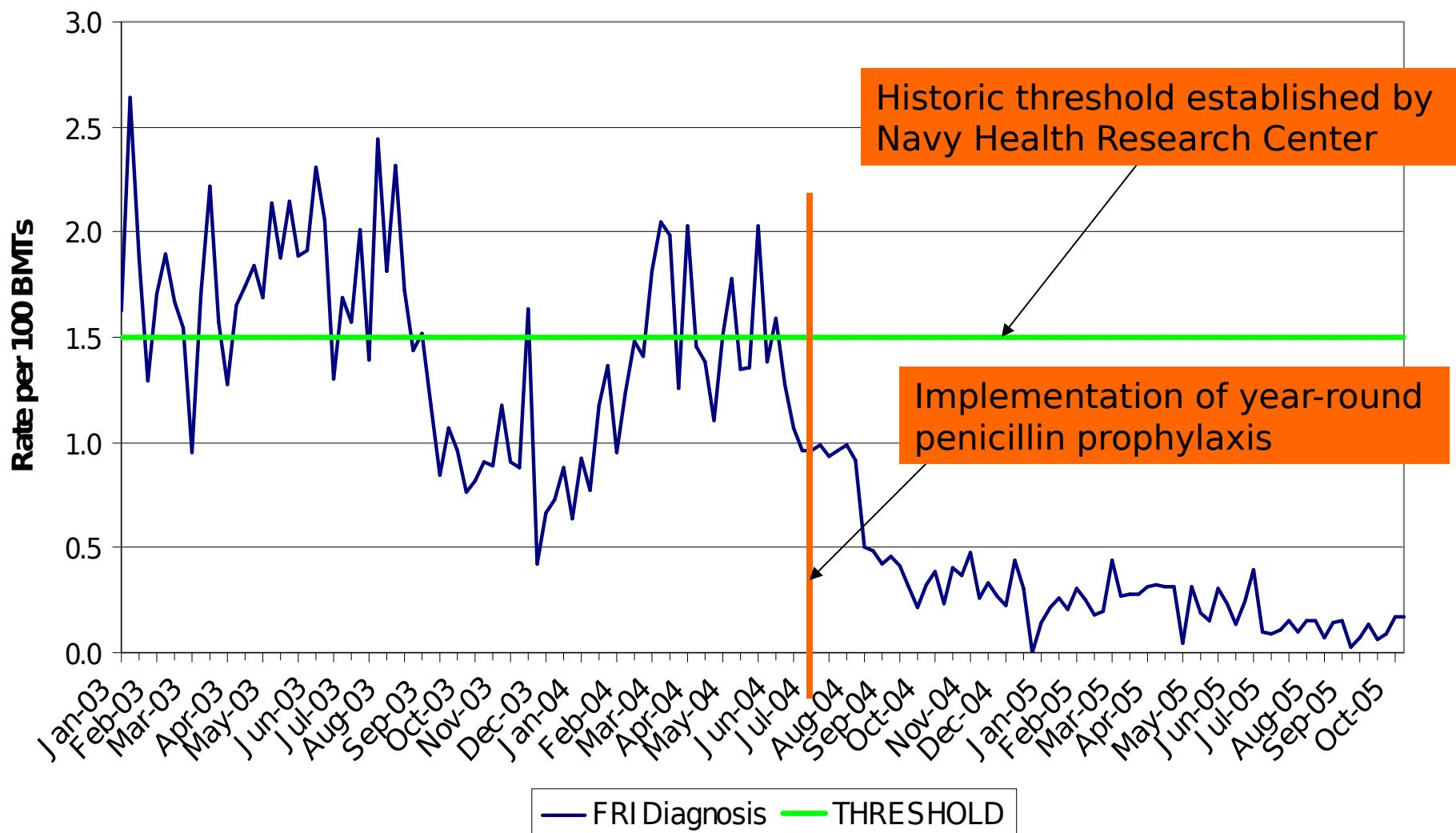
- 59 MDW Infectious Disease recommended seasonal prophylaxis in 2000
- Strep prophylaxis season: 1 Oct – 31 Mar
- Strep outbreak prevention during off-season (1 Apr – 30 Sep)
 - Prophylactic treatment if 3 cases per flight (50 BMTs) per week

Local Policy Change by 37 TRW/CC:

- Year-round prophylaxis implemented Jul 04
- IM Benzathine penicillin administered at week 1 of training
- Oral treatment alternatives
 - 3-8% of trainees self-report allergic reactions to penicillin
 - Erythromycin 250mg twice daily for 30 days
 - Taquin 400mg daily for 30 days
- Serious anaphylactic reactions: < 0.02% since implementation
- Dramatic decrease in strep and other URI



Febrile Respiratory Illness (FRI)





Existing Resources



- Manpower (2.5 FTEs)
 - 1 Preventive Medicine physician (44B)
 - 1 Statistician/Epidemiologist/Public Health officer (44H)
 - 1 Part-time Administrative Support/Facilities Manager
- Systems: 3 Desktops
- Budget: none at this time
- Available databases for surveillance
 - Airman Data Base (maintained by 737 TRG)
 - Weekly demographics for new accessions
 - CHCS I
 - DNBI report q 2 weeks of all BMT ICD9 codes
 - Spooling for lab results strep, flu, stis



Current Surveillance

BMT Disease Surveillance

- Diseases/Injuries currently being monitored:
 - Respiratory Illnesses:
 - Febrile Respiratory Illness (FRI)
 - Pneumonia
 - Streptococcal Diseases
 - Tuberculosis
 - Injuries/Stress Fractures
 - Gastrointestinal Illnesses
 - Heat Injuries/Illnesses
 - Behavioral Illnesses



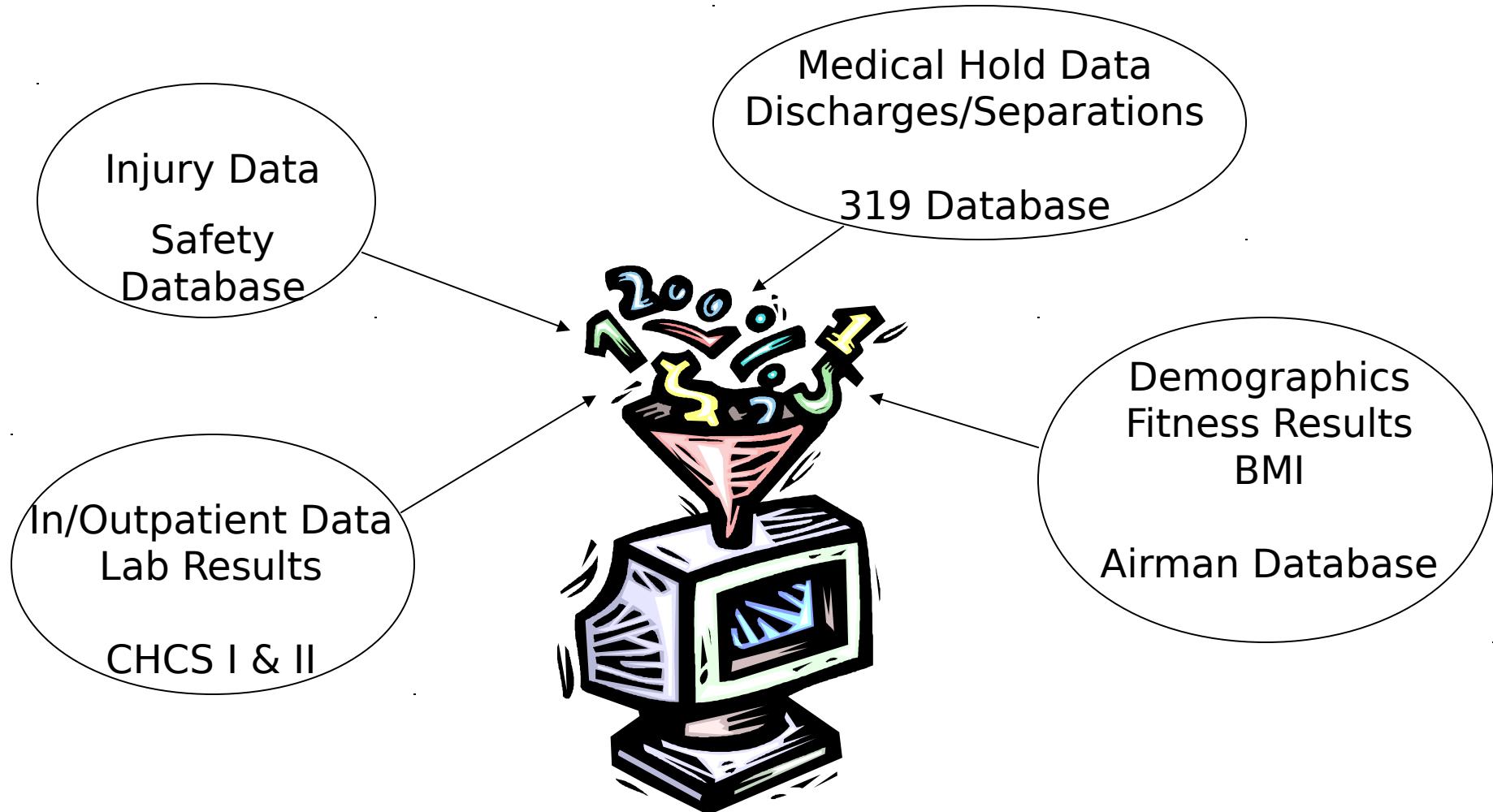
Current Research Projects



- GC/Chlamydia testing for female trainees starting 1 Dec 05
 - Anticipated prevalence of 7-9%
 - Urine test in week 1 of training
 - Positives receive treatment, education, instructed to notify their partners
 - Future: Possibly expand to include male trainees
- Stress Fracture Prevention/Rehabilitation program
 - Shoe inserts to prevent lower leg injuries
 - Structured rehab program to shorten time in med hold
 - Reduce attrition rate
- Personal Hydration System
 - Replace canteens with Camelbaks
 - Prevent heat illnesses/injuries
- Military Physical Training Footwear Study
- MMWR Article
 - Proposed Jan - Dec 05 annual descriptive epidemiology of BMTs



Future Surveillance



BMT Surveillance Database



Requirements

- Single centralized software platform pulling information from other data systems
 - “Improved granularity” into the medical, and behavioral aspects of BMT ELSs
 - Provide longitudinal epi-analysis
- Endorsement from AFEB for services to centrally support this endeavor



- Surveillance at other training/acquisition sites:
 - (Randolph/Sheppard/Maxwell AFBs, USAFSAM)
 - Manpower – 1-2 Public Health officers (43H)
 - Budget: none at this time
- Available databases for surveillance:
 - ESSENCE IV
 - CHCS I or 2
 - DNBI report q 2 weeks of all BMT ICD9 codes
 - Spooling for lab results strep, flu, stis



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- Colonel Michel Bunning, 59 AMDS SQ/CC
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Questions?



I n t e g r i t y - S e r v i c e - E x c e l l e n c e